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BOTANICAL GAZETTE.

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Notes on Fungi.

BY W. G. FARLOW.

The following notes include a number of corrections of errors and some additional information with regard to species mentioned in some recent papers. In Proc. Amer. Acad. xviii. 76, it was stated that *Uredo Toxicodendri*, Berk. and Rav., is the teleutosporic form with which *Pileolaria brevipes*, Berk. and Rav., is to be associated as the uredo form. I was lead to this conclusion because, in the large number of cases which I had examined, the *U. Toxicodendri* appeared to be the prevailing form late in the season. Although the number of cases examined by me seemed large enough to allow the conclusion which I drew, the only means of deciding with certainty which is the uredo and which the teleutosporic form is the mode of germination which, at the time of writing, I had never been able to observe. During the past summer I obtained the germination of the spores of the so-called *Uredo Toxicodendri*, and found that their mode of germinating is that of a uredo and not of a teleutospore. The germinal tubes are large, and, in spite of the prominent apical papilla, the tubes in the cases I saw were more frequently lateral than apical. The spores of the so-called *Pileolaria brevipes* I have not yet been able to make germinate, after repeated attempts.

While preparing a catalogue of exotic *Peronosporæ*, a species on *Cyclanthera hystrix*, a South American cucurbitaceous plant, was noticed in the Anales de la Sociedad Cientifica Argentina, xii. 81. The species, *P. australis*, was described in 1881 by Spegazzini, but the description was not received until after my paper in the October number of the GAZETTE appeared. From the description, *P. australis* seems identical with *P. Sicyicola*, described in the GAZETTE, and the former name has priority, unless, indeed, the species should prove to be the same as *P. Cuben-*

sis, B. & C., a point which can only be settled by a comparison with the type of *P. Cubensis* in the Berkeley herbarium at Kew, the specimen in the Curtis herbarium not being satisfactory. During the past year I have received specimens of *Peronosporæ* from various sources, including a few forms new to this country, and largely increasing the list of host-plants of species already known to occur with us. *P. Halstedii* appears to be on the whole our most widely diffused species, and to the comparatively large list of hosts already enumerated in the GAZETTE, thirteen in all, several more species are to be added. The species reaches its most luxuriant development on species of *Silphium* and *Helianthus* in the Western States but, abundant as are the conidia, the oospores are not often met with. Mr. Holway has found what appears to be *Peronospora calotheca*, De Bary, although no oospores were seen, on *Galium Aparine* in Iowa, and *P. Viciæ* on *V. Americana*, as well as *P. Sicyicola* on *Echinocystis lobata*. I received from Mr. J. Fletcher some grapes gathered at Ottawa, Canada, in August, 1884. The young grapes and their pedicels were covered with a dense growth of *Peronospora viticola*, in fact, denser than I have ever seen on the leaves of vines. Mr. Fletcher reports that the fungus was very destructive to grapes near Ottawa. It is somewhat surprising to find such a luxuriant growth of the fungus on the grapes themselves in so high a latitude as that of Ottawa, for most of the reports of the occurrence of the fungus on the grapes have come hitherto from warmer climates.

In Proc Amer. Acad xviii. 85, I mentioned a form of *Exoascus*, which grows on *Rhus copallina* in Massachusetts, and stated that I believed that a similar form had been found on an African *Rhus*, but I could not recall the reference. The notice which I had in mind was a paper by Dr. F. Thomas in the Sitzungsbericht, Bot. Ver. Brandenburg, xxii. 62. The paper is entitled "Ueber ein südafrikanisches Cecidium von *Rhus pyroides* Burch," and Dr. Thomas states that No. 34 of Thuemen's Herbar. Mycolog. Oeconom. Suppl. I, which is called an *Erineum*, is not due to the action of insects, as in most of the so-called *Erinea*, but is caused by a fungus which he thinks is probably a species of *Exobasidium*. In the deformities which they produce the *Exobasidia* resemble the species of *Exoascus*, and judging by Dr. Thomas's account of the fungus found by him in a sterile condition, it seems not unlikely that it was an *Exoascus* like our own. Persons owning copies of the Herbar. Mycolog. may be able to give further information on this subject. One would not naturally look to South Africa for fungous forms corresponding to those of New England, although a few fungi first described from the Cape have since been discovered in this country, of which an example is *Entyloma* (*Protomyces*) *Physalidis*, Cke. & Kalch., which, on the authority of Winter, who has examined the type of the species from the Cape of Good Hope, is the same as the form subsequently described as *Ent. Besseyi* in the GAZETTE of August, 1883, where the possible connection with *Protomyces Physalidis* was hinted.

Salix macrocarpa, Nutt., not of Andersson.

BY M. S. BEBB.

"SALIX MACROCARPA, Nutt. Leaves lanceolate, 2′–3′ long, ½′ wide, acute at both ends, at first covered with a brownish, silky down, at length glabrous, dark-green above, and bluish-white or glaucous beneath, mostly entire; stipules obsolete: aments appearing with the leaves, small, oblong, with 2–3 leaves at base: scales of the male small, blackish, oval, obtuse, somewhat hairy; of the female narrow and linear: capsules ventricose-lanceolate with long points, pedicelled, somewhat villous, but at length nearly smooth; stigmas subsessile, quadrifid."

"This species, like our pond willow (*S. grisea*), to which it is closely related, is found forming clumps in wet places where the water is stagnant, situations which it always seems to prefer to the banks of running streams. It attains a height of 3–4 ft. The branches are smooth and brownish-black, sometimes glaucous or whitish."—Sylva i. 67.

For the sake of brevity the above is condensed and rearranged from the original, but without the addition of a single word to supply any deficiency. It shows how well Mr. Nuttall distinguished the features of this marked species. Specimens received from Mr. Suksdorf, who has lately rediscovered the plant on the banks of the Columbia, where it was first found, attest the accuracy of the description given in the Sylva, as do likewise the authentic specimens in the Hookerian herbarium. The latter were in Prof. Andersson's hands, accompanied by Nuttall's characteristic label (with * to indicate n. sp), and the habitat plainly written—*Oregon!* It does seem that nothing short of sheer willfulness could have led to any mistake, and yet Prof. Andersson gratuitously transferredthe name to a single specimen from "Hudson Bay, *Burke*," which Nuttall never saw, and described a new